

REMARKS

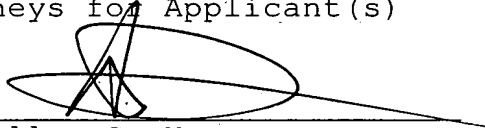
Claim 1 is amended and support for the amendments to claim 1 can be found on pages 15-16 and 26-27 of the specification.

Favorable consideration and allowance are hereby respectfully solicited.

Respectfully submitted,

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"VERSION WITH MARKINGS TO SHOW CHANGES MADE"

Claim 1 has been amended as follows:

1 (Thrice-amended). A purified recombinant thermostable enzyme which ~~has an amino acid sequence of a variant of SEQ ID NO:1, said amino acid sequence being~~ is similar but not identical to an enzyme having an amino acid sequence of SEQ ID NO:1 with regard to their amino acid sequences and which is obtainable from SEQ ID NO:1 by recombinant DNA technology, and which has the following physicochemical properties:

(1) Action

Forming non-reducing saccharides having a trehalose structure as an end unit and having a degree of glucose polymerization of at least 3 from reducing amylaceous saccharides having a degree of glucose polymerization of at least 3;

~~(2) Molecular weight~~

~~About 69,000-79,000 daltons on sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE);~~

~~(3) Isoelectric point (pI)~~

~~About 5.4-6.4 on isoelectrophoresis;~~

(2) Optimum temperature

About 75°C when incubated in 20 mM acetate buffer (pH 5.5);

(3) Optimum pH

About 5.0-5.5 when incubated at 60°C for 60 min;

(4) pH Stability

About 4.5-9.5 when incubated at 25°C for 16 hours;

(45) Thermostability

Substantially not inactivated even when incubated in an aqueous solution (pH 7.0) at 85°C for 60 min.; and

(56) Partial amino acid sequence

Having an amino acid sequence of at least two contiguous amino acid residues in SEQ ID NO:3 and/or SEQ ID NO:4 and being encoded by a chromosomal DNA which hybridizes to a probe having the nucleotide sequence of 5'-AAYYTNTGGTAYTTYAARGA-3' (SEQ ID NO:7) and a probe having the nucleotide sequence of 5'-GARGARTGGCAYWSNATHAT-3' (SEQ ID NO:8).